Association (ADA) guidelines were simulated. Cost of treatment and complications were based on officially published sources for medicines prices (www.mh.government.bg), for hospital charges (www.nhif.bg) and verified by expert opinion survey (1 BGN = 0.51 EUR). Future costs were discounted with 5%. **RESULTS:** Treatment to targets postpones minor complications by up to 4 years, delays major complications by 3 to 4 years and extends life expectancy from diagnosis by 3 years compared with the baseline scenario. Total discounted cost savings over remaining life expectancy from the diagnosis were from 2483 BGN to 2908 BGN per person. **CONCLUSIONS:** Enhanced treatment leads to avoidance or delay of the complications of diabetes. This significantly reduces the impact diabetes can have on patients' quality of life, life expectancy and cost of diabetes treatment in Bulgarian health care system settings.

PDB30

ASSESSMENT OF THE IMPACT OF THE NEW ANTIDIABETIC TREATMENT WITH VILDAGLIPTIN TO CHANGE THE TOTAL COSTS ON DIABETES TYPE 2

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BACKGROUND: Under the data of Russian Federal State Registry 2010 there are around 3 million patients in diabetes. Also data of epidemiology assessment in the frame of national project "Health" demonstrates that estimated number of patients consists of 5-7% from total population that is 4 times higher. Death rate of cardiovascular complications is 1.5 thousand people per year. Every second patient gets invalidity. So total expenditures for complications treatment tens times more than costs on medical products and control devices. **OBJECTIVES:** 1) Provide local costs of the disease, and 2) Assess benefits of new technology treatment versus traditional therapy. **METHODS:** Retrospective analysis of case studies of patients in D2T from 4 regions of Russia. Average age - 61 years, duration of D2T - 7.5 years, body mass index - more than 32 kg/m^3, Hb1Ac - 8.1%. Isolation of two groups of patients: 1 - treated with adding of vildagliptin (n=264); 2 - treated by traditional OAD with sulfonylurea (n=600). Comparative analysis "Cost of Illness" of two groups, and correlation between antidiabetic medical products and risk of fatal complications. **RESULTS:** Average cost of antidiabetic medical treatment of group 1 versus 2 is more than 2 times expensive, 16,600 rub versus 7,000 rub per patient rep year. Exchange rate is $1 = 30 rub. But total costs for the treatment of patients group 2 versus 1 is 30% higher (26,000 rub and 18,000 rub per patient per year accordingly). The main reason - more number of vital important cardiovascular events and exacerbations of hypertension and heart disease in group 2. Part of direct medical costs for the treatment without antidiabetic products is 7% and 73% from total costs for groups 1 and 2 accordingly. **CONCLUSIONS:** Usage of new antidiabetic products - vildagliptin is a way to control of diabetes, development of cardiovascular complications and total budget for the disease.

PDB31

COST OF DIABETES IN CROATIA IMPACT OF COMPLICATIONS ON THE COSTS OF TYPE II DIABETES

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OBJECTIVES: The prevalence of diabetes continues to grow, and it is estimated that in Croatia we have 315.900 adults with diabetes (9.2% adult population), although in many patients the disease has not yet been diagnosed. Majority of patients - 92,8% suffers from diabetes mellitus type 2. The objectives of this study are to quantify the economic burden of illness caused by increased health resource use and to provide detailed breakdown of the costs attributed to diabetes. **METHODS:** Prevalence-based cost-of-illness methodology was used to estimate the direct costs (hospital care, drugs, physician care, institutional care, additional costs) and indirect costs (sickness leave) associated with micro and macro vascular complications, diabetes monitoring and drugs analyzed by types of diabetes complication and health resource categories. **RESULTS:** Total cost of diabetes mellitus type 2 in Croatia sums to 11,49% of national insurer's budget, i.e. 351,7 mil EUR in 2009. Direct medical costs include 50,2 mil EUR to directly treat and monitor diabetes, and 301,5 mil EUR to treat diabetes-related chronic complications. Diabetes medications make 8,75% of total illness cost. The largest components of medical expenditures are hospital inpatient care (36,75%) and prescriptions for treating complications (28,49%). Hypertension and cardiopathy incur largest amount of expenditures related to diabetes complications (76,2 mil EUR), followed by acute myocardial infarction (68,6 mil EUR) and peripheral vascular disease (52 mil EUR). Indirect costs equal 4,6 mil EUR. **CONCLUSIONS:** An average expenditure per person with diagnosed diabetes type 2 in Croatia is 1.956 EUR yearly. These cost data provide additional rationale for better disease monitoring and complication prevention.

PDB32

COST OF DIABETES AND ITS COMPLICATIONS IN POLAND: PRELIMINARY RESULTS

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OBJECTIVES: Diabetes mellitus (DM) is a major health problem with severe complications and a significant impact on quality of life. It constitutes an enormous burden of disease due to high prevalence, severe co-morbidities and high costs for society. This study is the first comprehensive study on direct and indirect cost of DM (type 1 and type 2) and its complications in Poland. **METHODS:** In order to estimate the direct medical costs of DM and its complications, including the costs of medical consultation, hospitalization, rehabilitation, drugs and medical equipment data for the years 2004-2009 of the National Health Fund were used. Indirect costs like costs of pensions for incapacity for work, the costs of rehabilitation and loss of productivity due to diabetes and its complications were obtained from the Department of Social Security for the years 2004-2009. **RESULTS:** Direct medical costs of DM in Poland increased in the analysed period. The significant share of these costs constitutes the costs of drugs (25.7% increase 2005 vs. 2007). Direct costs of DM treatment, without costs of drugs, increased in the analysed period at similar rate (type 1 – 22,7%, type 2 – 22,1%). The highest costs are associated with treatment of diabetes complications. The total cost of treatment of DM showed in the analysed period an upward trend. The indirect costs are mainly determined by loss of productivity, cost of pensions for incapacity for work and cost of rehabilitation. The number of diabetic patients receiving pensions for incapacity for work is declining, but this trend is being seen in the whole disability pensions system in Poland. **CONCLUSIONS:** From year to year DM causes a growing economic burden on the health care and to the Polish society in terms of health care and productivity loses.

PDB33

COST OF DIABETES MANAGEMENT TO COCOA CLINICS IN GHANA

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OBJECTIVES: To determine the financial cost of diabetes management to Cocoa clinics for 2009. **METHODS:** A descriptive cross-sectional study of diabetes management at the four Cocoa clinics in Ghana from May to July 2010 was conducted. The prevalence-based 'Cost-of-illness' approach from the institutional perspective was employed. A pre-tested data extraction form was used to review the medical records of 304 diabetes patients randomly selected. **RESULTS:** The mean age was 55.4 years. The annual financial cost of managing one diabetes patient was estimated to be GH¢ 541.35 (US$ 373.34). Service cost constituted 22% whiles direct medical cost was 78%. Drug cost was 71% of the financial cost. The cost of hospitalization per patient-day at Cocoa clinic was estimated at GHø 32.78 (US$ 22.61). The total financial cost of Diabetes management was estimated at GH¢ 420,087.67 (US$ 289,715.63). This accounted for 8% of the total expenditure for the Clinics in year 2009. The study showed that facility type, type of diabetes and presence of complications is associated with the cost of Diabetes management to Cocoa clinics. **CONCLUSIONS:** The cost of managing Diabetes Mellitus and accompanying complications can be used to forecast the economic burden of the disease to the clinics. The mean age indicates delay in diagnosing diabetes and accompanying complication which has cost implications. This calls for policies that will help in the early detection in clinical practice and effective management protocols by Cocoa clinics.

Keywords: Diabetes, financial cost, Cocoa clinics, complication, Cost-of-illness, Ghana.

PDB34

MEDICAL TREATMENT COSTS ATTRIBUTABLE TO OBESITY IN DIABETIC PATIENTS IN THE UNITED STATES

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OBJECTIVES: To estimate annual treatment costs attributable to obesity (TC-ATO) in diabetes patients in the US. **METHODS:** The study used Medical Expenditure Panel Survey data from 2001-2008, a nationally representative sample of US non-institutionalized population. Diabetic patients(≥18 years old) were identified using ICD-9-CM code 250, clinical classification codes 049 and 050, or physician reported diagnosis. Patients were classified as normal (body mass index(BMI)18.5-<25 kg/m^2), overweight (BMI 25-<30 kg/m^2), or obese (BMI≥30 kg/m^2). Patients with pregnancy, malignancy, kidney dialysis, immunodeficiency, or low BMI<18.5 kg/m^2 were excluded. Treatment costs included all costs for treating diabetic patients, excluding dental health and injury costs. Adjusted costs were calculated using generalized linear model(GLM) with log link function and gamma distribution. TC-ATOs were estimated using recycled prediction and quantile regression method. The recycled prediction method predicted costs for obese patients by calculating costs using estimated coefficients from normal patients using GLM after adjusting for the study variables. TC-ATO was the differences between actual costs and predicted costs in the obese patients. In quantile regression, TC-ATO for each quantile was estimated as the coefficient of the obese patients. All costs were converted to 2010 US dollars using price indices. **RESULTS:** The average treatment costs were $9,196 (95%CI:$8,213-$10,178) and $9,614 (95%CI:$9,124-$10,104) for normal and obese patients, respectively. The treatment costs in obese patients were 12% higher than those in normal patients after adjusting for other study variables(p=0.029). Overall, the average TC-ATO in diabetic patients was predicted to be $527(95%CI:$49-$1,005). TC-ATO calculated by quantile regression were $154(95%CI:$68-240), $253(95%CI:$165-$342), $395(95%CI:$246-$545), $705(95%CI:$395-$1,015) and $920($443-$1,397) for 10th, 25th, 50th, 75th, and 90th percentile, respectively. **CONCLUSIONS:** Obese patients with diabetes have significantly higher treatment costs compared to normal diabetic patients. The increased economic burden attributable to obesity represents potentially avoidable costs, which justifies allocating additional resources to therapeutic interventions aimed at reducing weight.

PDB35

ESTIMATING THE REAL LIFE DAILY USAGE AND DAILY COST OF GLP-1 RECEPTOR AGONISTS IN THE UK SETTING

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OBJECTIVES: Glucagon-like peptide-1 (GLP-1) receptor agonists are indicated to improve glycemic control in adults with Type 2 diabetes mellitus. The maximum daily licensed dosages in the UK are 20μg and 1.8mg for exenatide and liraglutide respectively. In addition to factors such as glycaemic control, cost is an important consideration when selecting treatments. The aim of this analysis was to describe the real-world daily usage and cost of exenatide BID and liraglutide in the UK setting. **METHODS:** Data and study period: UK records between October 2008 and March 2011 from the IMS Dynamic Prescription database. This database captures data from pharmacy records (45% national coverage) of actual prescriptions dispensed, linked to individual patients (anonymised). Inclusion criteria: patients have filled a prescription for a GLP-1 receptor agonist at least twice during the study period; all key prescription fields are complete. The weighted average daily usage was calculated for each agent using the total volume of product dispensed and the number of patients filling prescriptions per month. Drug costs (British National Formulary 61, 2011) were applied to estimate average daily cost (ADC). Key assumptions: patients are not stockpiling or disposing of drug; each prescription equals one pack; patients are filling their prescriptions at the same pharmacy. **RESULTS:** Data was available for a total number of unique patients of 19,200 and 12,690 for exenatide BID and liraglutide (data available from July 2009) respectively. The average daily usage during the investigated time period was estimated to be 20.49μg for exenatide and 1.51mg for liraglutide, with an estimated ADC of £2.53 and £3.29 respectively. **CONCLUSIONS:** Based on the data described, GLP-1 receptor agonists are being dispensed in amounts within an acceptable range of the maximum daily licensed dosage. The ADC appears to be 30% higher for liraglutide with an estimated additional daily spend of £0.76.

PDB36

ESTIMATING THE AVERAGE ANNUAL COST OF TREATMENT WITH INSULIN FOR PATIENTS WITH TYPE 2 DIABETES MELLITUS

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OBJECTIVES: To estimate the average annual cost of treating patients with type 2 diabetes mellitus with insulin including: the cost of insulin, test strips for self-monitoring of blood glucose levels, and additional healthcare professional (HCP) time spent with patients following insulin initiation. The secondary objective was to describe insulin prescribing patterns in the UK. **METHODS:** For insulin and test strip costs a retrospective analysis of 2009/10 UK patient-level data was undertaken using Cegedim Strategic Data. Costs were applied using the BNF and MIMS. To estimate HCP resource use, 100 HCPs were surveyed on the number of contacts with insulin patients in the 3 years prior to and the 3 years post insulin initiation. Costs were applied using PSSRU 2010. **RESULTS:** A projected 24.5 million insulin items were prescribed to 400,000 patients, generating an estimated average annual insulin cost of £393 per patient. Long-acting and biphasic insulins together accounted for more than 75% of the total volume and costs of insulin prescribed; intermediate acting insulins accounted for 6% and 4% of the volume and costs respectively. A projected 4.5 million packs of test strips were prescribed to 360,000 patients, generating an estimated average annual cost of test strips of £180 per patient. Contact time across all HCPs peaked in the year following insulin initiation. There was an absolute increase of 8 contacts per patient in the 3 years post insulin initiation, representing an additional cost of £103 per patient. **CONCLUSIONS:** Insulin initiation increases the cost of care not only because of the insulin costs, but because of the package of resources that insulin requires. The estimated cost of insulin, insulin pens, needles and test strips is £609 per patient. The analysis suggests divergence from the NICE Clinical Guidelines 87 recommendation that first-line insulin therapy should be intermediate NPH insulin.

PDB37

INJECTION OF LONG-ACTING SOMATOSTATIN ANALOGS: A COST CONSEQUENCE ANALYSIS FOR THREE EUROPEAN COUNTRIES

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OBJECTIVES: Long-acting somatostatin analogs (SSA) with product-specific formulation and means of administration are injected periodically in acromegaly and neuroendocrine tumor (NET) patients. The ready-to-use device Somatuline Autogel/Depot® reduces drug administration time by 80%. Its prefilled syringe also avoids the risk of clogging reported for octreotide LAR. A simple decision-analytic model aimed at estimating cost savings due to these differences in administration was developed for the UK, France and Germany. **METHODS:** The decision tree simulated four scenarios for SSAs Somatuline Autogel/Depot® and Sandostatin LAR®, injected by either hospital- or community-based nurses. Injection success depended on clogging event occurrence. In the case of clogging, the first dose was assumed to be lost and a second injection performed. Administration costs were valued based on average hourly nurse wages in addition to country-specific retail drug costs. Several simulations were run depending on the baseline risk of clogging, administration time, and their respective relative reduction due to use of Somatuline Autogel/Depot®. **RESULTS:** Costs per successful injection were less for Somatuline Autogel/Depot®, ranging from EUR 13 to EUR 44, EUR 52 to EUR 150 and EUR 107 to EUR 127 respectively for France, Germany and the UK. As the prices for both long-acting SSAs were the same in France, cost savings came 100% from differences other than drug prices. For Germany and UK, the proportions of savings due to lower clogging and administration time was estimated around 32% and 20%, respectively. Based on low and high country-specific patient cohort size estimations for acromegaly and NETs, these costs savings per patient could lead to overall annual savings up to one million euros for France, six million euros for Germany, and four million euros for the UK. **CONCLUSIONS:** Widespread usage of the new pre-filled Somatuline device for injection of SSA might lead to substantial savings for healthcare providers across Europe.

PDB38

ECONOMIC EVALUATION OF RANIBIZUMAB IN THE TREATMENT OF VISUAL IMPAIRMENT DUE TO DIABETIC MACULAR EDEMA IN AUSTRIA

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OBJECTIVES: Diabetic macular edema (DME) is an ophthalmological complication of diabetes that may lead to visual impairment and blindness if left untreated, and even despite treatment with the current standard of care, laser coagulation. Currently, an estimated 2% of diabetics suffer from DME with vision loss. The aim of the study was to evaluate the cost-effectiveness of ranibizumab versus laser coagulation in the treatment of visual impairment due to DME. **METHODS:** A cost-effectiveness analysis was simulated using a Markov model adapted for Austria. The model is based on the PHIII-RESTORE trial. Outcome measures were 'Vision Years' and QALY. Costs are year 2010 values. Direct medical costs comprise all treatment costs due to diabetic macular edema. The cost of blindness was incorporated using data from an Austrian cost-of-illness-analysis. The model time horizon was lifetime. The analysis was performed from the perspective of the Austrian health care system according to the Austrian Guidelines for Health Economic Evaluations. **RESULTS:** The model assumes 7 injections of ranibizumab in the first year and 4 injections in the second year, as well as 2 treatments with laser coagulation in the first year and one treatment in the second year. Lifetime costs amount to €17,417 for ranibizumab and to €16,286 for laser coagulation. The ICER is €5354 (incremental QALYs gain with ranibizumab of 0.22). The number of vision years is 10.19 for ranibizumab and 8.57 for coagulation; the incremental cost per additional vision year gained is €701. **CONCLUSIONS:** The study suggests that in Austria, ranibizumab treatment for visual impairment resulting from DME is a cost-effective strategy versus the current standard of care, laser coagulation.

PDB39

COST-EFFECTIVENESS OF SAXAGLIPTIN COMPARED TO SITAGLIPTIN FOR THE TREATMENT OF PATIENTS WITH TYPE 2 DIABETES MELLITUS (T2DM)

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OBJECTIVES: Saxagliptin (Onglyza®) and sitagliptin (Januvia®) are DPP-4 inhibitors licensed for the treatment of T2DM. The two treatments have been investigated as an add-on to metformin in an 18-week, non-inferiority, RCT in 801 patients with T2DM who failed to achieve adequate glycaemic control on metformin alone. Results showed that the newer treatment, saxagliptin, was noninferior to sitagliptin, with a similar tolerability profile. Saxagliptin has a lower acquisition price, hence this analysis sought to assess cost effectiveness of saxagliptin+metformin versus sitagliptin+metformin using a cost utility analysis (CUA) framework from a UK healthcare perspective. **METHODS:** The CUA utilised a validated model using UKPDS risk equations to estimate long run micro/macro-vascular complications and mortality over a 40 year time horizon. Clinical parameters in the model included HbA_{1c} levels for treatment effect, weight gain and incidence of hypoglycaemic adverse events. Parameter estimates were obtained from a mixed treatment comparison (MTC) of saxagliptin and sitagliptin, which included the head-to-head study. Treatment costs were based upon UK published list prices. Established costs and disutilities associated with long-term diabetic outcomes were used, based upon a UKPDS sub study. Univariate/probabalistic sensitivity analysis was conducted. **RESULTS:** The annual drug cost per patient for saxagliptin was £411.93 versus £433.57 for sitagliptin. In the base case, total discounted healthcare costs over the 40 year time horizon were £9,907 with saxagliptin and £10,035 with sitagliptin, with the same discounted QALY outcomes (10.49). Saxagliptin was therefore cost saving in the base case analysis. This finding was consistent across a range of sensitivity analyses, with the exception of lower 95% credible intervals for saxagliptin efficacy which resulted in a small incremental cost for saxagliptin (£29). **CONCLUSIONS:** Saxagliptin and sitagliptin have been shown to have comparable therapeutic profiles in a head-to-head study and MTC, but lower healthcare costs driven by a 5% lower drug acquisition cost.

PDB40

ECONOMIC ANALYSIS OF DIABETES TREATMENT GOALS DEFINED BY POLISH DIABETES ASSOCIATION: HOW MUCH DOES COST-EFFECTIVE TREATMENT COST?

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OBJECTIVES: Clinical guidelines for diabetes management issued by Polish Diabetes Association (PDA) describe therapeutical goals in patients with diabetes. The aim of this analysis was to determine additional costs that may be incurred for treatment along with PDA recommendations (as compared with current treatment practice), so that the growth of treatment-related expenses would remain cost-effective in Polish setting. **METHODS:** Two hypothetical patients were defined: John and Peter, whose clinical characteristics correspond to those of newly diagnosed patients with diabetes mellitus type 2 (DM2) in Poland. Diabetes progression was modelled assuming that John is treated in line with current clinical practice and Peter is treated along with PDA recommendations (HbA1c, LDL, HDL, SBP are